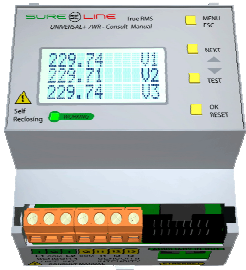
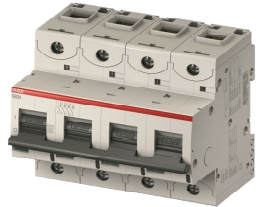


UNIVERSAL+ TWR M5 electrical protection unit (triggered by SHUNT TRIP), mains analysis, cutting-edge instrumentation, logging, input-output automation and control. Display, programming and control via WebServer over Internet/Intranet directly with Web browser + Modbus TCP/IP.

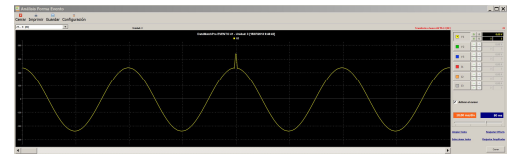
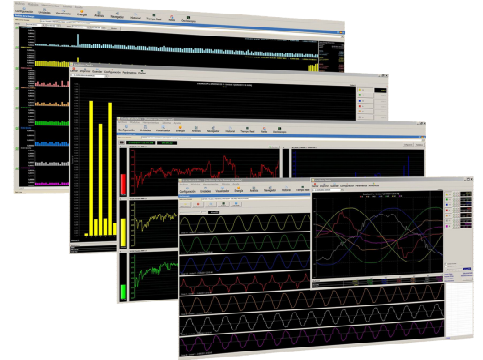


M5: SHUNT TRIP for external MCB, manual reclosure from 6 to 10000A, 2 and 4-pole.



Ultra-immunised differential protection

Medidas			
Tensión RMS	Tensión Pk	Tensión entre fases	Frecuencia
V L1 = 231.71 V L2 = 227.22 V L3 = 232.46	VpL L1 = 231.86 VpL L2 = 216.17 VpL L3 = 219.90	V L12 = 397.66 V L23 = 396.31 V L31 = 400.37	Hz L1 = 50.0 Hz L2 = 49.9 Hz L3 = 50.0
Intensidad RMS	Intensidad Pk	Intensidad Neutra	Intensidad diferencial RMS
A L1 = 1.05 A L2 = 10.06 A L3 = 15.17	ApL L1 = 1.75 ApL L2 = 13.55 ApL L3 = 15.17	A LN = 6.67	IMA = 262.4 IMAPA = 427.0
Desbalance tensión	%TH	Desbalance intensidad	%TH intensidad
%L1 = 0.0 %L2 = 1.0 %L3 = 6.2	%L1 = 1.4 %L2 = 1.4 %L3 = 1.5	%L1 = 84.6 %L2 = 41.6 %L3 = 43.2	%L1 = 26.6 %L2 = 4.2 %L3 = 15.2
Factor de corrección tensión	Factor de corrección intensidad	Impedancia	Temperatura y humedad
L1 = 1.289 L2 = 1.390 L3 = 1.283	L1 = 1.612 L2 = 1.247 L3 = 1.492	Z L1 = 212.87 Z L2 = 22.89 Z L3 = 22.89	TC = 126.5 URH = 66.9
Potencia Activa	Potencia Activa	Potencia reactiva	Potencia reactiva
VA L1 = 252.2 VA L2 = 2344.5 VA L3 = 4884.9	W L1 = 160.1 W L2 = 2396.5 W L3 = 2138.9	Wp L1 = 181.7 Wp L2 = 2398.0 Wp L3 = 2140.1	W- L1 = 21.6 W- L2 = 9.0 W- L3 = 11.1
Potencia Reactiva Inductiva	Potencia Reactiva Capacitiva	Factor de Potencia	Máxima Potencia Activa
VAR L1 = 0.0 VAR L2 = 0.0 VAR L3 = 0.0 ΣL123 = 0.0	VARC L1 = 136.3 VARC L2 = 0.0 VARC L3 = 92.0 ΣL123 = 178.2	PF L1 = 0.621 PF L2 = 0.999 PF L3 = 0.907	W L1 = 0.0 W L2 = 0.0 W L3 = 0.0
Intensidad AC	Intensidad DC	Potencia AC	Intensidad diferencial AC
VAc L1 = 231.70 VAc L2 = 227.21 VAc L3 = 232.44	Aac L1 = 1.06 Aac L2 = 10.06 Aac L3 = 15.16	Wac L1 = 160.0 Wac L2 = 2399.0 Wac L3 = 2139.9	MAc = 262.3
Tensión DC	Intensidad DC	Potencia DC	Intensidad diferencial DC
Vdc L1 = 0.04 Vdc L2 = 0.44 Vdc L3 = 0.25	Adc L1 = 0.02 Adc L2 = 0.12 Adc L3 = 0.04	Wdc L1 = 0.0 Wdc L2 = 0.0 Wdc L3 = 0.0	MAc = 0.0



Other models

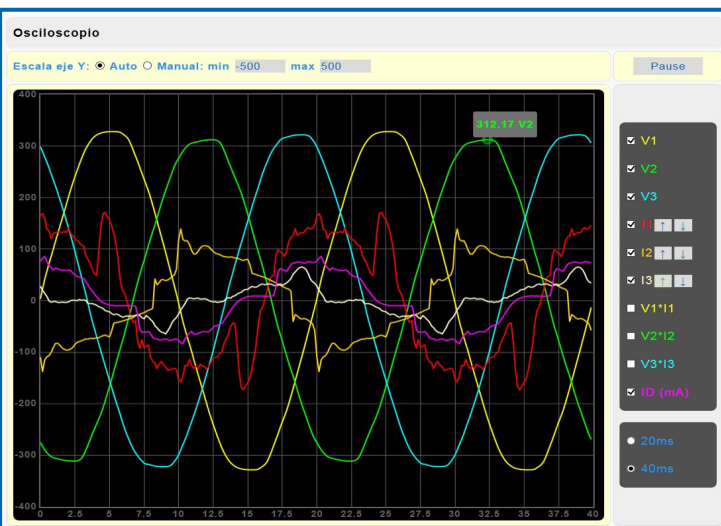
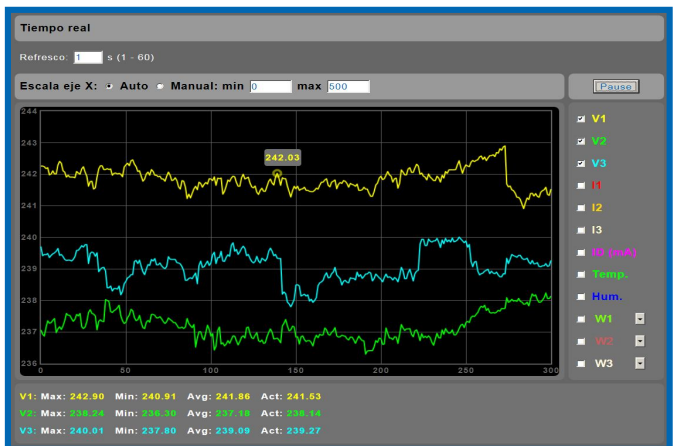
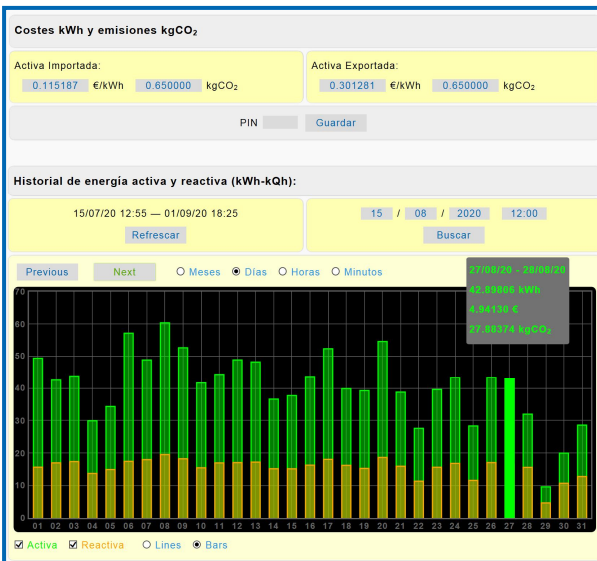
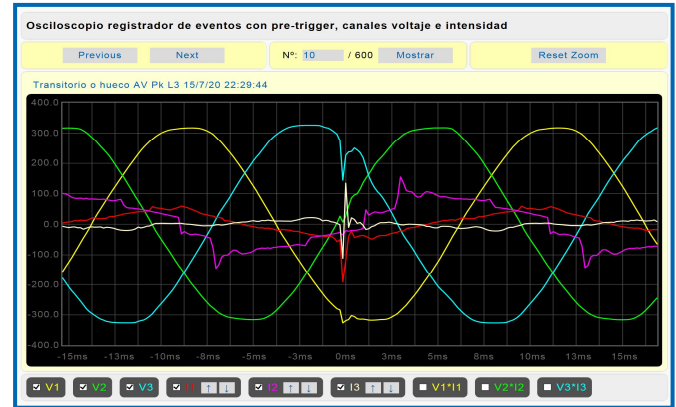
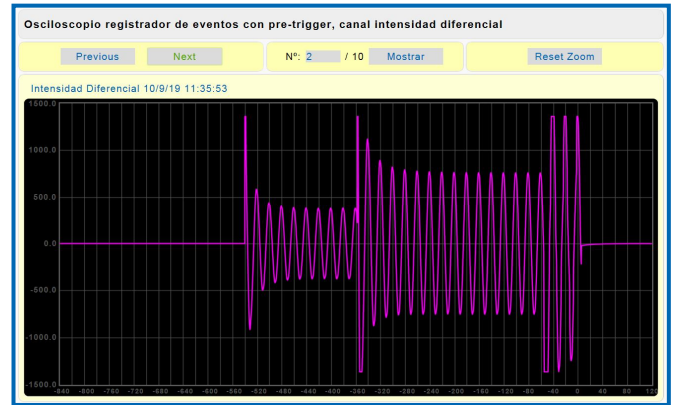
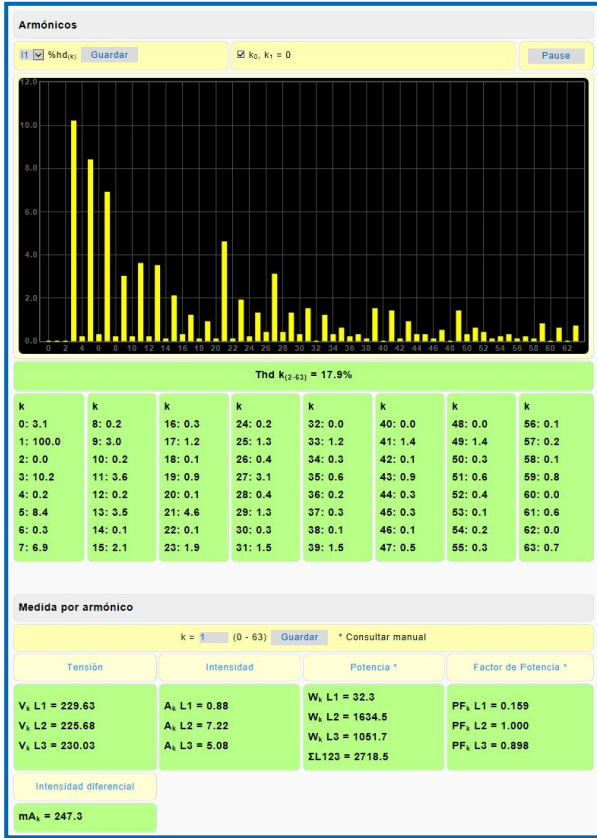
M1: MCB from 6 to 63A, 2 and 4-pole with automatic reclosure (Icu 10-15kA).

M2: MCB from 10 to 125A, 2 and 4-pole with automatic reclosure (Icu 50kA), or moulded -case circuit-breaker from 80 to 250A-2000A, 4-pole with automatic reclosure

M3: External relay/contactors from 25 to 1250A, 2 and 4-pole with automatic reclosure.

Electrical protections/alarms, programmable in value and delay	Mains analysis, electrical RMS, Peak, AC and DC metering Report generator for data stored in unit in EXCEL, PDF and DOC files
Differential intensity, RMS and Pk (type A/B); I _{Δn} 30-1000mA; Δt from 40ms to 1000ms	Differential intensity, RMS, Pk, AC and DC
Differential intensity: Versions 10-300mA, 30-1000mA, 100-3000mA	RMS, Pk, AC and DC voltage L1, L2, L3 ; RMS voltage phases L1-2, L2-3, L3-1
Overvoltage: RMS and Pk L1, L2, L3 and low voltage RMS L1, L2, L3	RMS, Pk, AC and DC intensity L1, L2, L3 (measurement up to 10.000A)
Line over-intensity: RMS and Pk L1, L2, L3	Active power W RMS, AC and DC and apparent power L1, L2, L3, ΣL123
Neuter intensity: and Power factor L1, L2, L3	Active power L1, L2, L3, (Maximeter-integration programmable 10 secs. to 15
Phase sequence and phase failure L1, L2, L3	Reactive, inductive and capacitive power L1, L2, L3, ΣL123
Voltage and Intensity THD (total harmonic distortion) L1, L2, L3	Voltage and intensity THD L1, L2, L3 as from harmonic 2 – 63, programmable by harmonic and harmonics range
From harmonic 2 – 63, programmable by harmonic and harmonics range	Requested and returned power L1, L2, L3, ΣL123 and neuter intensity
Power 1 W L1, L2, L3	Imported and exported active and reactive energy counters L1, L2, L3, ΣL123
Power 2 W L1, L2, L3 (Maximeter-integration programmable 10 secs. to 15 mins.)	Power factor. Line frequency and impedance L1, L2, L3
Voltage unbalance L1, L2, L3	Voltage and intensity unbalance and crest factor L1, L2, L3
Intensity unbalance L1, L2, L3	Voltage %HD (harmonic distortion) L1, L2, L3 of harmonic k 0 to 63
Over and low frequency L1, L2, L3	Intensity %HD (harmonic distortion) L1, L2, L3 of harmonic k 0 to 63
Over and low temperature	Voltage and intensity L1, L2, L3, of harmonic k 0 to 63 (64 harmonics)
over and low humidity	Temperature, relative humidity + temperature, humidity of 6 remote sensors
Remote input 1, Remote input 2. Programmable (ON/OFF and Reset reclosure	
Cutting-edge instrumentation for electrical parameters in mains analysis	
Oscilloscope event-logger with pre-trigger and autoscale, differential intensity channel. Built-in 600-event memory.	960ms-log with 840ms pre-trigger.. With horizontal zoom functions, and value and time measurement cursor . 4 alarms-trigger, programmable in value and delay. Chronological register per type of alarm.
6-channel oscilloscope event-logger with pre-trigger and autoscale voltage and intensity channels (6 capture channels for each event: V1, V2, V3, I1, I2, I3). Built-in 600-event memory	Three modes of record length in 6 channels 160ms,320ms and 640ms (pre-trigger 40ms, 80ms and 160ms) + three modes in 6 channels 20s, 40s and 80s (pre-trigger 5s, 10s and 20s). With horizontal zoom functions, and value and time measurement cursor .. 10 alarms-trigger programmable in value and delay, Chronological register per type of alarm. . 3 channels with autoscale, auto-refreshing, axis scaling, automatic or manual, 3 V/I mathematical channels- Includes instantaneous value measurement cursor in all channels. Continuously refreshed display (every 1.5 secs.).
7-channel oscilloscope , auto-refreshing (differential I, V1, V2, V3, I1, I2, I3)	With autoscale, auto-refreshing, axis scaling, automatic or manual. - Includes instantaneous value measurement cursor . Continuously refreshed display (every 1.5 secs.).
Oscilloscope with auto-refreshing (differential I)	Voltage V1, Intensity I1, Voltage V2, Intensity I2 Voltage V3, Intensity I3, Differential intensity ID
64-harmonic spectrum analysis , 7 channels with auto-refreshment (distortion range in % and value V – A, + THD). Display auto-refreshed every 1.5 secs.)	Bar and line graphic display. Active Imported - exported and reactive energy. Includes measurement cursor . Active imported-exported energy consumption log as also reactive by months, days, hours and minute. Built-in 3-year memory.
Graphic history (months, days, hours and minutes) of active and reactive energy with costs and emissions. Energy report generator permits unit-stored data to be exported to EXCEL, PDF and DOC files.	
300-event graphic logger, 12 channels (46 measurements) with autoscale and variable refreshing (1-600 secs.) with temporary Max. Min. Avg measuring	Current, maximum, temporary maximum, temporary minimum, temporary mean values and value of difference between maximum and minimum values.
Log	
Historic LOG, logs ON, OFF and alarm information Report generator for unit-stored data to EXCEL, PDF and DOC files	Chronological register of alarms. OFF/ON and power failure / start-up Year, month, day, hour and minute measurement value
Automatic data dispatch to a remote server via Internet/Intranet	Every 5 minutes to log all measurements and I/O in Safeline Web Service
Individual MCB cut-off counters	52 independent counters, counting from 0 to 65536
Maximum and minimum measurement log	45 independent logs
Chronological log of most recent cut-off and alarm	Year, month, day, hour and minute measurement value
Automation and control of inputs-outputs (10 logic outputs [relays] and 10 logic inputs + 4 remote outputs [relays])	
Programmable enablement/disablement of 10 relays + 4 remote relays	For one or various alarms, reclosure block, internal time programmer,, 8 timers
Manual enablement/disablement of outputs and monitoring of inputs	10 logic outputs (relays) and 10 logic inputs + 4 remote outputs (relays)
Weekly astronomical programmer	for each geographical location up to 160000 ("Safeline Web Service" administration software)
Thousands of time programmers (up to 16000)	daily / monthly/ yearly, vacations, holidays ("Safeline Web Service" administration software)
Programmable enablement/disablement of 10 relays (DataWatchPro software)	Programmable automation of relays with level alarms in time-frame for each unit
High safety	
Very high-speed cut-off of the MCB	Consult manual
Real, incremental, manual and automatic differential intensity test,+ autotest	Automatic prior to reclosure..Real., conclusive differential tester .
Programming protected by security code, default configuration ex-factory, acoustic warnings, configurable in English or Spanish	
Standards: EN 60947-2 (annexe B):2018, UNE-EN 62053-22:2003 CLASE 0,5S, EN 62053-23:2003 CLASE 2, UNE 20-600-77, EN 50550:2011 (consult manual)	
Measurement precision version 0,2% and 0,4% (V, I). 3-year guarantee Further information: consult instruction manual	

Display directly with Web browser via Internet/Intranet, with no need for software



Complementos

Medidas personalizables remotas

Policomparador energético remoto

Generador de informes

Este nuevo complemento permite personalizar y organizar las medidas que necesite de multitud de equipos, para así poderlas comparar entre ellas en tiempo real.

¿Ha pensado en comparar el consumo de varios lugares? con este complemento solo tendrá que añadir las IPs de los equipos a comparar y listo!

Genere un informe sobre la información del equipo, las medidas y el registrador log de multitud de equipos y exportelos a pdf, excel o doc de una manera rápida e intuitiva.

Generador de informes energéticos

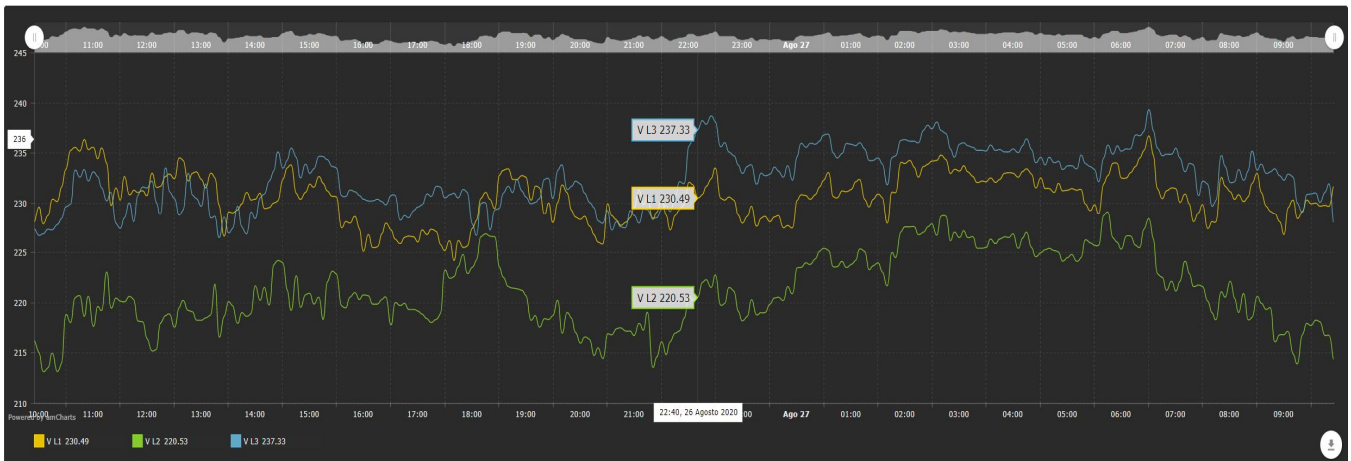
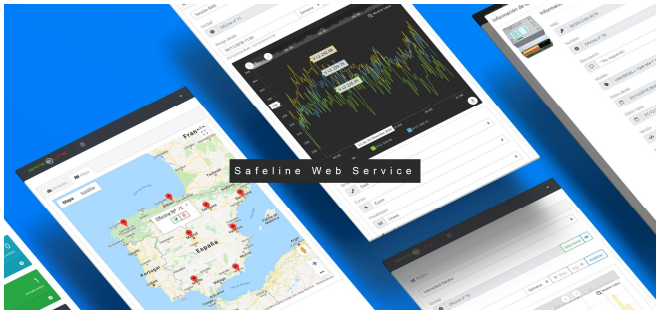
Multigenerador de informes energéticos

Esta aplicación permite generar un informe sobre el historial de energía. Podrá exportar a pdf, excel o doc los consumos, costes y emisiones de multitud de equipos.

¡Novedad! Genere un informe sobre el historial de energía de multitud de equipos Universal en paralelo y permite exportar el informe a pdf, excel o doc (Word, Open office etc.). Incluye totales de todas las unidades.

Software Safeline Web Service V1.1.0 (dedicated server)

- Administration and control software via Internet/Intranet for multiple Sureline Universal+ TWR units
- Storage of measurement and I/O status data sent by the units
- Unit register and geographical location management from map via Google Maps
- Weekly astronomical programmer for each geographical location (output relays) assignable to groups of units
- Thousands of independent hourly programmers (assignable to groups of units):
 - Daily / weekly
 - Daily / monthly / yearly
 - Daily / monthly/ yearly (vacations and holidays)
- Output relay management and logical input management
- Graphical analysis of measurements
- Management of measurement alarms and logical input for each unit, with notifications via e-mail
- Unit management by labels. Attribute search engine.
- Auto-register of units in the server
- Administration capacity: 16000 Sureline units. Configurable in English or Spanish



Control panel for the graph visualization:

- Tema: Dark
- Cursor: Zoom
- Visualizador: Líneas suavizadas
- Promediados:
 - Max V L1: 236.66 Min V L1: 224.21 Avg V L1: 230.58
 - Max V L2: 229.06 Min V L2: 213.15 Avg V L2: 221.14
 - Max V L3: 239.28 Min V L3: 226.47 Avg V L3: 232.42

A screenshot of the Safeline Web Service dashboard. The dashboard features a dark sidebar with navigation options: Dashboard, Units, Analysis, Alarms, Status and relay control, Input status, Astronomical programmer, Daily/weekly prog., Daily/monthly/yearly prog., Vacations/holiday prog., and Tags. The main content area displays a grid of widgets:

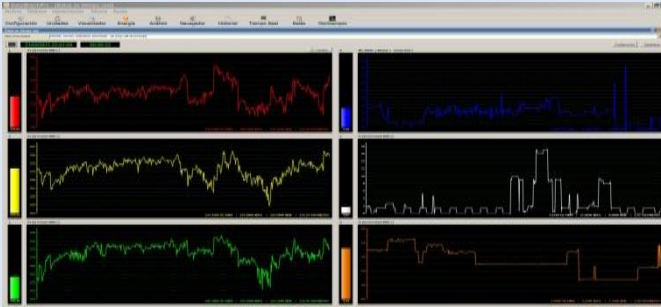
- Units: 8 Registered units
- Analysis: 22,698,564 Stored measures
- Alarms: 0 Configured alarms
- Status and relay control: 11 Active relays
- Input status: 1 Active input
- Astronomical programmer: 0 Configured programs
- Daily/weekly prog.: 0 Configured programs
- Daily/monthly/yearly prog.: 0 Configured programs
- Vacations/holiday prog.: 0 Configured programs
- Tags: 10 Configured tags
- Notifications: 0 Unread notifications

DataWatchPro included for all the UNIVERSAL+ 7WR M1, M2, M3, M5, M4, Rogowski M4 and 7WR MINI range

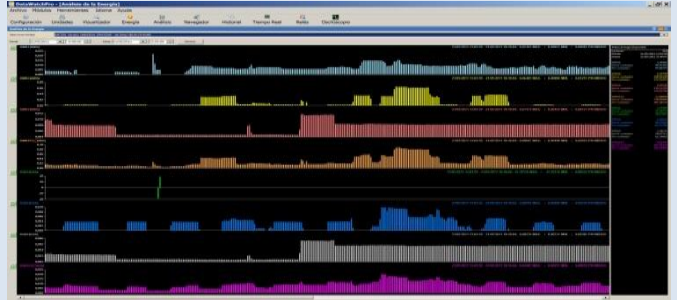
Professional software with database and graphic data analysis

- Multi-thread communication with a multitude of remote units via Internet/Intranet (reading and command)
- 200-parameter chronological logger in database for each unit.
- Independent notifications via e-mail of 249 programmable alarms for each unit
- Programmable automation/tele-control of relays with level alarms in time frame for each unit
- Module: numerical data analysis
- Module: graphic data analysis
- Module: history analysis
- Configurable in English or Spanish

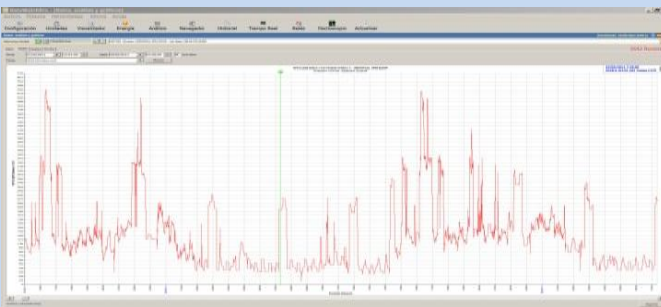
• Module: real time



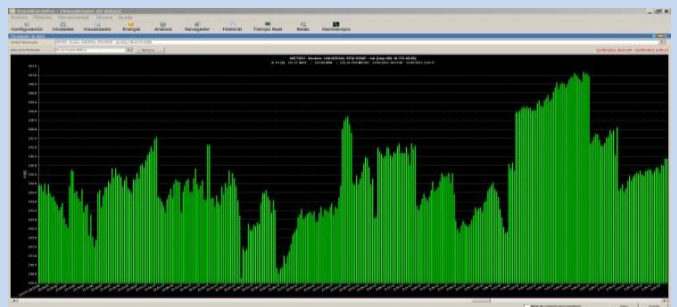
• Module: graphic energy analysis



• Module: graphic plotter (graphic long period analysis)



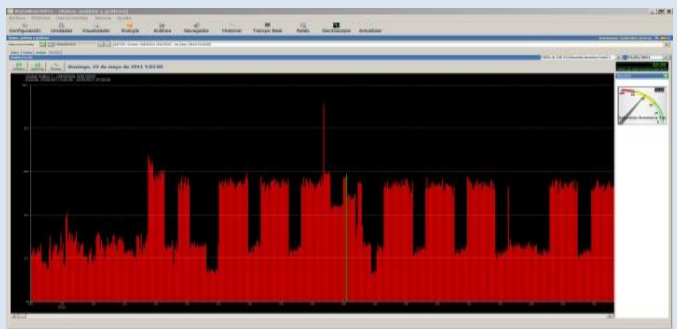
• Module: graphic display (rapid analysis)



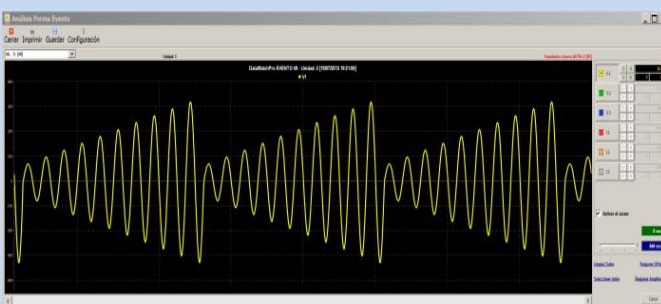
• Module: 7-channel oscilloscope. With autoscale and functions.



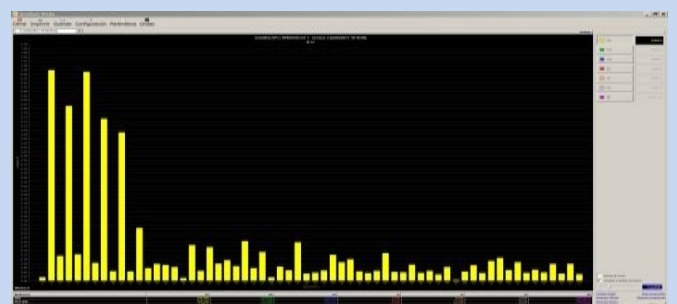
• Module: daily analysis



• Module: 6-channel oscilloscope event-logger in waveform with pre-trigger and autoscale



• Module: 7-channel harmonics spectrum with autoscale (63 harmonics, range in % and value V - A).



Wiring diagram

UNIDAD UNIVERSAL+ 7WR M5

MODELO UNIVERSAL+ 7WR - M5 - T - A30-1000mA - 500E - 50Hz - 230V
 CONFIGURACION TRIFASICA 4 POLOS

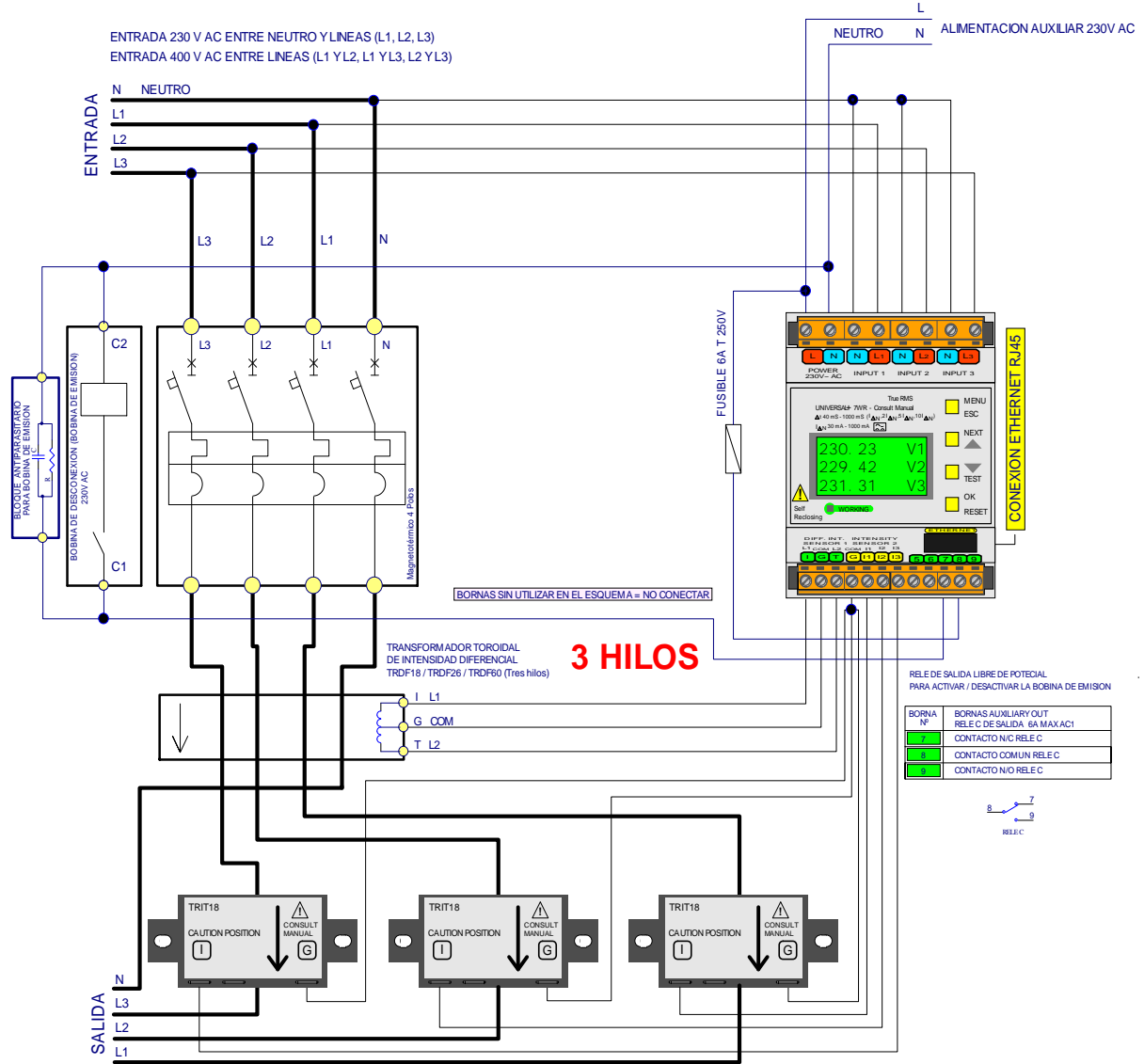
Versión transformador de intensidad de línea. Únicamente transformadores TRIT14, TRIT18 y TRIT26 (70A / 140A / 280A)

CONSULTAR CARACTERISTICAS E INSTRUCCIONES DEL FABRICANTE DEL MAGNETOTERMICO 4 POLOS Y BOBINA DE EMISION



VERSION INTENSIDAD
 DIFERENCIAL TIPO A

CONFIGURACION: SEGURIDAD POSITIVA (NE) RELE C NORMAMENTE ENERGIZADO

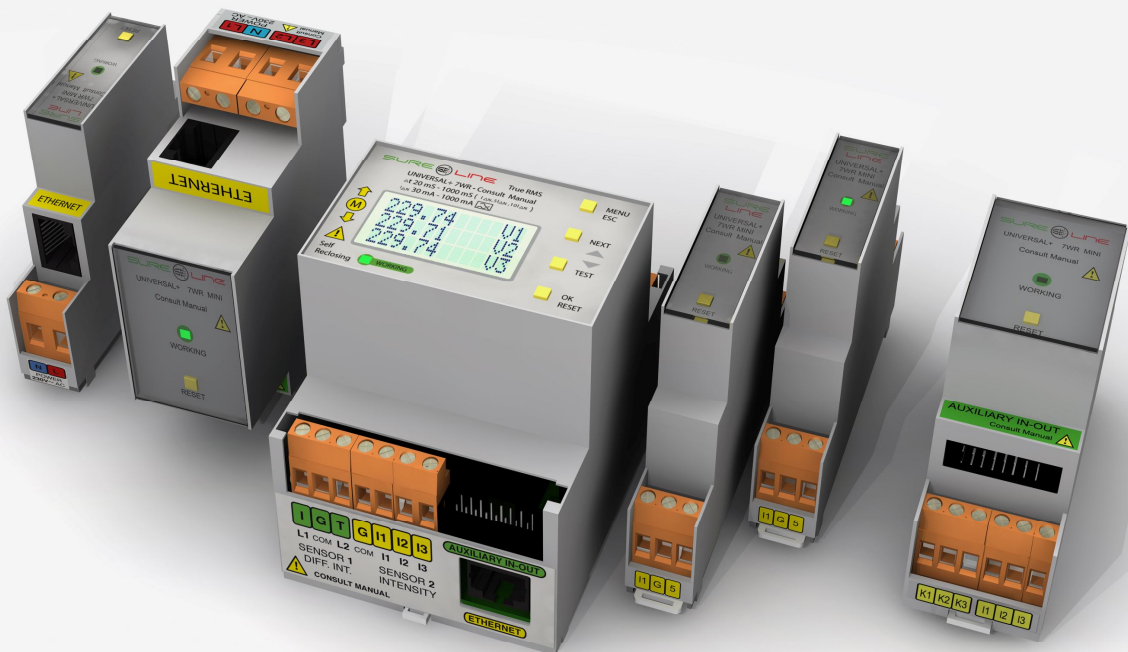


TRDF18 / TRDF26 / TRDF60 (Tres hilos):
 TRANSFORMADOR TOROIDAL DE INTENSIDAD DIFERENCIAL
 PASAR LOS CONDUCTORES L1, L2, L3 Y NEUTRO
 POR EL ORIFICIO DEL TRANSFORMADOR TOROIDAL
 INDIVIDUALMENTE EMPAREJADO Y AJUSTADO PARA SU MODULO
 NO INTERCAMBIAR Y POSICIONARLO SEGUN SENTIDO FLECHA

TRIT14 / TRIT18 / TRIT26:
 TRANSFORMADOR TOROIDAL DE INTENSIDAD DE LINEA
 INDIVIDUALMENTE EMPAREJADO Y AJUSTADO PARA SU M ODULO
 NO INTERCAMBIAR Y POSICIONARLO SEGUN SENTIDO FLECHA



CONSULTAR MANUAL DE INSTRUCCIONES



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Made in EU

